

THE PRESENTATION WILL BEGIN  
SHORTLY.THERE WILL BE NO AUDIO  
UNTIL THEN.




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## INFLUENZA UPDATE: 2016/2017



NORTH DAKOTA  
DEPARTMENT of HEALTH

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## INFLUENZA

### ■ A respiratory disease; common symptoms include:

- Fever  $\geq 100^{\circ}$  F
- Cough
- Sore throat
- Also body aches, chills, headache, fatigue

### ■ NOT a gastrointestinal disease

- GI symptoms (vomiting, diarrhea) possible, seen generally in children, but should be accompanied by other symptoms
  - Fever w/ nausea and vomiting is very likely NOT influenza

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## INFLUENZA

- Influenza is seasonal.
  - "Season" runs October through May
  - Most cases occur January-March in North Dakota
- But influenza can happen any time during the year!
  - Low circulation of seasonal viruses
  - Variant influenza associated with contact with pigs (usually summer)




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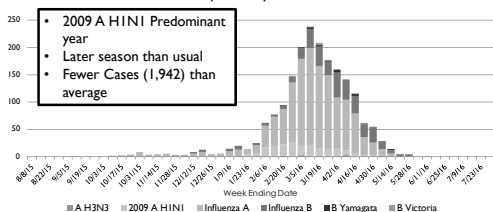
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## 2015-2016 SEASONAL RECAP

Number of Reported Laboratory-Identified Influenza Cases Reported by Week




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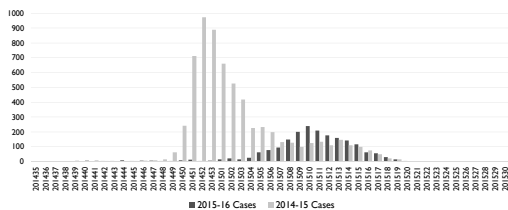
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## 2015-2016 SEASONAL RECAP

Influenza Case Counts by Week for the 2014-15 and 2015-16 Seasons




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## 2015-16 SEASONAL RECAP

- Five identified deaths, including one pediatric death.
  - School-aged child
  - Underlying medical conditions
  - First reported pediatric death since 2010-11 season
  - CDC reported 85 pediatric influenza-related deaths for 2015-16, down from 148 for the 2014-15 season.




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## ANTIVIRAL RECOMMENDATIONS

Used for treatment or prevention.

- Treatment: shorten duration of symptoms, possibly reduce risk of developing complications.
  - Recommended for patients who are hospitalized, have severe and/or progressive illness or who are at risk for influenza complications
  - Should be given as soon as possible after symptom onset, ideally within 48 hours
  - Should not wait for lab confirmation
- Prevention: prevent illness or severe illness in at-risk individuals
  - Should be given within 2 days of exposure
  - Routine use in general public not recommended—trying to avoid antiviral resistance.
- Three different forms available.




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## INTERVALS WITH ANTIVIRALS

- Inactivated vaccine (IIV) may be administered to a person on antivirals or anytime before or after antiviral treatment has been started




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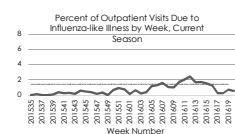
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## SURVEILLANCE

- Case reports: Lab-positive influenza A and B are reportable in North Dakota
- Sentinel outpatient ILI reports
- Lab reports
- School absenteeism reports
- Death data (Vital Records)
- Syndromic surveillance
- Outbreak reporting
  - Long term care influenza-like illness
  - >10% absenteeism for respiratory illness in schools



## ILI SURVEILLANCE RECRUITING



2015-16 Percent ILI Seasonal Baseline

Influenza-like Illness (ILI) Activity Level Indicator Determined by Data Reported to ILINet

2015-16 Influenza Season Week 9 ending Nov 15, 2015



We need more ILINet providers!

- Weekly reports
- Data used at state and national level
- Call me! 701.328.3341 or email [jhaber@nd.gov](mailto:jhaber@nd.gov)

OPTIONAL PROVIDER REPORTS OF INFLUENZA-LIKE ILLNESS (ILI)

2015-16 Influenza Season Week 9 ending Nov 15, 2015

Number of Patients with ILI

0-4 Years

5-24 Years

25-44 Years

45-64 Years

> 64 Years

Total Number of Patients Seen for Any Reason

2015-16 Influenza Season Week 9 ending Nov 15, 2015

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2015-16 Influenza Season Week 9 ending Nov 15, 2015

## VACCINE RECOMMENDED FOR...

- Everyone 6 months and older!

### PARTICULARLY IMPORTANT FOR PEOPLE WHO...

- Are 6 months-4 years old
- Are 50 years and older
- Have chronic pulmonary(including asthma), cardiovascular, renal, hepatic, neurologic, hematologic, or metabolic disorders(including diabetes)
- Are immunosuppressed(including immunosuppression caused by medication or HIV)
- Are or will be pregnant during the influenza season
- 6 months through 18 years and receiving long-term aspirin therapy and who therefore might be at a risk for experiencing Reye syndrome after influenza virus infection




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### PARTICULARLY IMPORTANT FOR PEOPLE WHO ARE...

- Residents of nursing homes and other chronic-care facilities
- American Indian or Alaska Natives
- Extremely obese (BMI is 40 or greater)
- Healthcare personnel
- Household contacts and caregivers of children ages younger than 5 years and adults ages 50 years and older, with particular emphasis on vaccinating contacts of children aged younger than 6 months
- Household contacts and caregivers of persons with medical conditions that put them at a higher risk for severe complications from influenza




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### TIMING OF VACCINATION

- CDC recommends that flu vaccine should be administered as soon as it is available
- Individuals should receive their flu vaccine by the end of October, if possible.
- Flu vaccine should continue to be offered as long as flu virus is circulating.
- Always remember to check expiration dates on your flu vaccine




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- Protects against 2 influenza A viruses and 1 influenza B virus

### Standard-dose trivalent

- Different flu shots approved for ages 6 months and older

### High-dose trivalent

- Approved for people 65 and older

### Trivalent made with adjuvant

- helps create a stronger immune response-approved for people 65 and older

### Recombinant trivalent (RIV3)

- egg free
- Approved for people 18 and older



## AVAILABLE VACCINES

- protects against 2 influenza A viruses and 2 influenza B viruses
- **Standard**
  - includes shot approved for people as young as 6 months
- **Intradermal**
  - injected into the skin instead of the muscle-using a much smaller needle- approved for 18-64 year olds
- **Cell culture**
  - approved for people 4 years and older

- All IIV should be stored at 36°F-46°F (2°C-8°C) and should not be frozen. IIV that has been frozen should be discarded.

 2016 - 2017 Influenza Vaccine Dosage Chart

Vaccine	Prevention	Preservation	Age	Dosage
Flumovax® (canine distemper)	0.5 ml syringe [27]	Yes	6 - 33 months	0.25 mL
	Mix: dist. virus ([27] and [7])	Yes	4 months and older	0.25 mL 13 months
	0.5 mL viral [27]	Yes	7 years and older	0.5 mL 9 years and older
	0.5 mL syringe [27]	Yes		0.5 mL
Fluvax® (canine distemper)	0.5 mL intramuscular [27]	Yes	18 - 24 years	0.1 mL
	0.5 mL syringe [27]	Yes	65 years and older	0.5 mL
	0.5 mL syringe [27]	Yes	7 years and older	0.5 mL
	Mix: dist. virus ([27] and [7])	Yes	3 years and older	0.5 mL
Fluvax® (canine)	0.5 mL syringe [27]	Yes		
	Mix: dist. virus [27]	Yes	4 years and older	0.5 mL
Fluvax® (canine)	0.5 mL syringe [27]	Yes	6 years and older	0.5
	0.5 mL syringe [27]	Yes		
Merial® (canine)	0.5 mL syringe [27]	Yes	9 years and older*	
	Mix: dist. virus [27]	Yes		
Fluvax® (feline)	0.5 mL viral [27]	Yes	12 years and older	0.5 mL

<sup>a</sup>For other age-appropriate, licensed inactivated seasonal influenza vaccine is available for a child ages 1 through 8 who has a medical condition that increases their risk for influenza complications, providers may use *Fluorix*<sup>®</sup>. However, providers should discuss the benefits and risks of influenza vaccinations with parents or caregivers before administering *Fluorix*<sup>®</sup>.

SV5 = Trivalent (2 A strains, 1 B strain) inactivated influenza vaccine, SV4 = Quadrivalent (2 A strains, 2 B strains) inactivated influenza

For questions contact the immunization program at 703.576.5566 or toll free 800.473.3160

### LAIV OR FLUMIST® -NOT RECOMMENDED FOR 2016-2017 FLU SEASON!!

- ACIP has recommended Live attenuated intranasal influenza vaccine (LAIV) or FluMist® **not** be used for the 2016-2017 flu season.
- Data on LAIV efficacy for the 2015-2016 flu season was 3%
  - 95% confidence interval of -49% to 37%
  - (children ages 2-17 during 2015-2016 flu season)
- This means there was no protective benefit from LAIV
- IIV, however, had a efficacy of about 63% (95%CI: 52%-72%)
  - (children ages 2-17 during 2015-2016 flu season)




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### THIS SEASON'S VACCINE

- All of the 2016-2017 influenza vaccine is made to protect against the following three viruses:
  - an A/California/7/2009 (H1N1)pdm09-like virus
  - an A/Hong Kong/4801/2014 (H3N2)-like virus
  - a B/Brisbane/60/2008-like virus (B/Victoria lineage)
- Quadrivalent vaccine protects
  - B/Phuket/3073/2013-like virus (B/Yamagata lineage)-as well as above strains




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### EGG ALLERGY AND FLU VACCINE

- Anyone with an egg allergy can receive any licensed flu vaccine.
  - Should be administered in an inpatient or outpatient medical setting
  - And should be supervised by a health care provider
  - No longer have to wait 30 minutes after receiving vaccine




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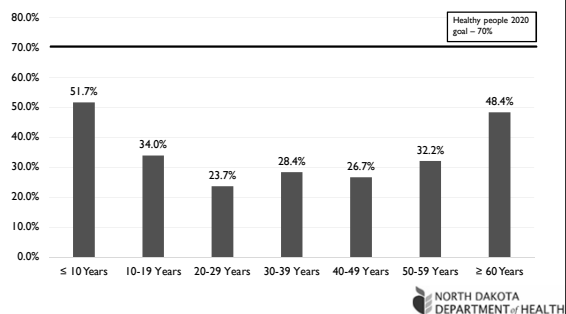
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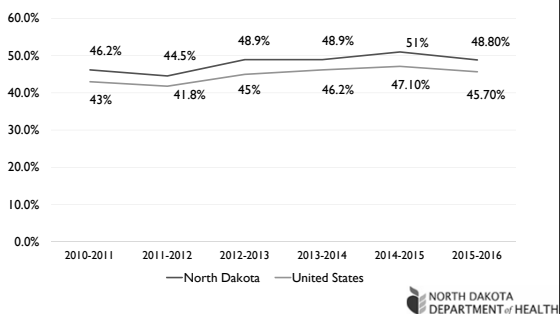
## FLU VACCINE

- Age indications vary by type of influenza vaccine, but all flu shots may be given to people with chronic medical conditions who are older than 6 months of age.
- Based on manufacturer projection, IIV supply for 2016-2017 flu season should be sufficient despite recommendations against the use of LAIV.

## VACCINATION RATES FOR THE 2015-2016 FLU SEASON IN NORTH DAKOTA (NDIIS)



## NATIONAL AND NORTH DAKOTA INFLUENZA VACCINATION RATES (>6 MONTHS)-NATIONAL IMMUNIZATION SURVEY AND BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM

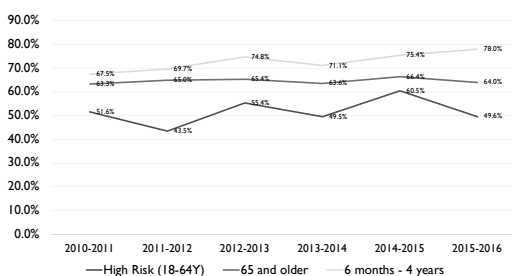




### ADULTS 65 AND OLDER

- Typically, flu vaccine works best in healthy adults and older children.
- Two vaccine types only approved for those 65 and older developed to create a stronger immune system:
  - High dose influenza vaccine-contains 4x the antigen as standard flu shot.
    - Data from clinical trials indicate higher antibody levels after receiving the high dose vaccine-ongoing study examining if higher antibody levels result in a higher immune response.
  - Adjuvanted flu vaccine-trivalent vaccine containing MF59 adjuvant
    - \*New this season
- ACIP & CDC have not expressed a preference for high dose, adjuvanted, or standard flu vaccine for those 65 and older.
  - Mild side effects may be more common in high doses or in adjuvanted.

### NORTH DAKOTA VACCINATION RATES AMONG HIGH RISK GROUPS- NATIONAL IMMUNIZATION SURVEY AND BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM



### PREGNANT WOMEN

- Pregnant women are more prone to severe illness from flu & greater chance for serious problems for their developing baby.
- Flu vaccine is safe and recommended during any trimester of pregnancy.
  - Should not receive LAIV-which is not recommended for anyone this flu season.
- Pregnant women who receive the flu shot develop antibodies to the flu virus that may be passed on to their developing baby. Offers protection to baby for several months after birth.
  - Infants have lower risk of flu and flu related hospitalizations in first 6 months.
- The flu vaccine is also safe for women who are breastfeeding.
  - Reduces the mother's risk of getting sick and of passing the flu on to their baby
  - Especially important for mothers of infants who are under 6 months

### PREGNANT WOMEN AND HEALTH CARE PROVIDER RECOMMENDATION

- Among pregnant women visiting a physician or medical provider,
  - 64.6% received recommendation and offer of vaccination
  - 15% received recommendation-but no offer of vaccination
  - 23.4% did not receive a recommendation for flu vaccine
- Women who receive a recommendation for and an offer of vaccination from a doctor or other medical professional are
  - 3 times more likely to be vaccinated as women who only received a recommendation (but no offer)
  - And 8 times more likely to be vaccinated as women who did not receive a recommendations for vaccination
- Recommendations from trusted healthcare professionals is extremely important!!

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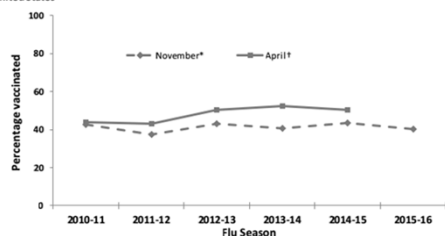
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### PREGNANT WOMEN VACCINATION RATES- NATIONAL

Flu vaccination coverage before and during pregnancy among pregnant women by early November and mid-April for the 2010-11 through 2015-16 flu seasons, Internet panel survey, United States



Source: <http://www.cdc.gov/Pfizer/news/press/2015s0515.htm>  
Centers for Disease Control and Prevention 3200 Chiles Rd, Atlanta, GA 30333 USA  
May 15, 2015 10:00:13 AM EDT 171 1000 121 4240 - Version: CDC-0405  
Page last updated: December 15, 2015

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### FLU VACCINE AND HEALTHCARE WORKERS

- Influenza vaccination is recommended for all health care workers by the CDC (Centers for Disease Control), ACIP (Advisory Committee on Immunization Practices), and NFID (National Foundation for Infectious Diseases).
- Many health care workers begin to spread influenza before they even realize they are sick or continue to work despite illness.
  - Most individuals can spread the flu one day before symptoms develop.
- Up to 50% of health care workers, infected with influenza, are either asymptomatic or only experience mild symptoms.
- Flu can spread quickly in a health care setting.
- Get vaccinated to keep yourself, your patients, and your family healthy!

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### MANDATORY FLU VACCINATION POLICIES

- Early season 2015-2016 flu vaccination coverage among health care personnel in the United States was 66.7%
- Early season flu vaccination coverage was highest among physicians.
- Early season flu vaccination coverage was higher among health care personnel whose employers required (87.2%) or recommended (61.9%) flu vaccine compared to those whose employer did not (39.4%).




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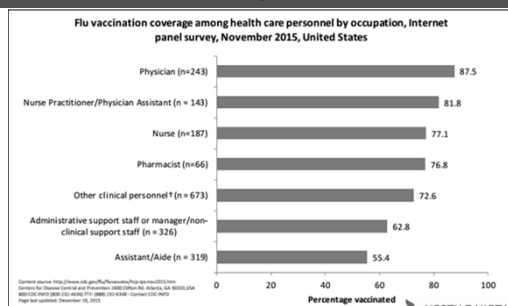
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### HEALTH CARE PERSONNEL VACCINATION RATES- NATIONAL




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### TWO DOSE RECOMMENDATION

- Some children between 6 months through 8 years are recommended to receive two doses of vaccine.
- Algorithm to determine how many doses are needed.
- Children who have **not** received 2 or more doses of influenza before July of 2016 will need two doses.
  - Separated by 28 days




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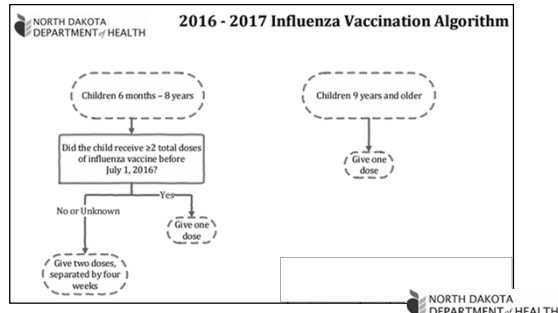
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## TWO DOSES OR ONE DOSE?



## INFLUENZA VIS: GIVE TO PATIENT BEFORE ADMINISTERING VACCINE- HAS NOT CHANGED FROM LAST YEAR

**VACCINE INFORMATION STATEMENT**

**Influenza (Flu) Vaccine (Inactivated or Recombinant): What you need to know**

**1 Why get vaccinated?**

Influenza (Flu) is a contagious disease that spreads through the air. It is caused by a virus. It can be serious, especially for young children and the elderly. It can also lead to complications, such as pneumonia, ear infections, and sinusitis. Getting vaccinated can help protect you and your family from getting sick. It can also help reduce the risk of serious complications. Influenza is a seasonal illness that occurs every year. It is caused by a virus that changes every year. This means that you need to get vaccinated every year. Influenza is a contagious disease that spreads through the air. It is caused by a virus. It can be serious, especially for young children and the elderly. It can also lead to complications, such as pneumonia, ear infections, and sinusitis. Getting vaccinated can help protect you and your family from getting sick. It can also help reduce the risk of serious complications. Influenza is a seasonal illness that occurs every year. It is caused by a virus that changes every year. This means that you need to get vaccinated every year.

**2 Inactivated and recombinant flu vaccines**

Inactivated and recombinant flu vaccines are made from dead virus particles. They are safe for everyone, including pregnant women and people with weakened immune systems. They are also safe for people who have had a bad reaction to a previous flu vaccine. Inactivated and recombinant flu vaccines are made from dead virus particles. They are safe for everyone, including pregnant women and people with weakened immune systems. They are also safe for people who have had a bad reaction to a previous flu vaccine.

**3 Some people should not get this vaccine**

Some people should not get this vaccine. These include people who have had a bad reaction to a previous flu vaccine, people who are allergic to any of the ingredients in the vaccine, and people who are currently getting a live flu vaccine. Some people should not get this vaccine. These include people who have had a bad reaction to a previous flu vaccine, people who are allergic to any of the ingredients in the vaccine, and people who are currently getting a live flu vaccine.

**4 Risks of a vaccine reaction**

Like all medicines, including vaccines, there is a chance of a reaction. These are usually mild and go away on their own. They can include soreness at the injection site, fever, and muscle aches. These are usually mild and go away on their own. They can include soreness at the injection site, fever, and muscle aches.

**5 What if there is a serious reaction?**

Signs of a serious allergic reaction can include hives, swelling of the face and throat, difficulty breathing, and a rapid heartbeat. If you experience any of these symptoms, seek medical attention immediately. Signs of a serious allergic reaction can include hives, swelling of the face and throat, difficulty breathing, and a rapid heartbeat. If you experience any of these symptoms, seek medical attention immediately.

**6 The National Vaccine Injury Compensation Program**

The National Vaccine Injury Compensation Program (NVICP) is a federal program that provides compensation to people who have been injured by a vaccine. It is a no-fault program, meaning that you do not need to prove that the vaccine caused your injury. The National Vaccine Injury Compensation Program (NVICP) is a federal program that provides compensation to people who have been injured by a vaccine. It is a no-fault program, meaning that you do not need to prove that the vaccine caused your injury.

**7 How can I learn more?**

You can learn more about the vaccine by talking to your healthcare provider. You can also visit the CDC website at [www.cdc.gov](http://www.cdc.gov) for more information. You can also visit the CDC website at [www.cdc.gov](http://www.cdc.gov) for more information.

**NORTH DAKOTA DEPARTMENT OF HEALTH**

## VFC FLU VACCINE ALLOCATIONS

- Providers pre-book in the spring.
- North Dakota VFC program receives Flu vaccine in multiple shipments.
- Flu vaccine is allocated by the VFC program to providers.
- Amount providers receive in fall based on two things:
  - How much vaccine is given to the VFC program by CDC
  - How much vaccine was pre-booked by providers in February

### FREQUENTLY ASKED INFLUENZA QUESTIONS

- When a child younger than nine received 2 doses of live flu vaccine previously, does the child need to receive 2 more doses this year?
  - No.
- Why is high dose flu vaccine not recommended over regular injectable vaccine for individuals 65 and older?
  - Data from clinical trials shows that antibody levels are higher for individuals 65 and older who received high dose over regular flu vaccine. However, whether the improved immune response leads to greater protection is not yet known. So, at this time one vaccine is not recommended over the other.




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### FREQUENTLY ASKED INFLUENZA QUESTIONS

- Is it ok to administer two doses of standard dose flu vaccine if high dose is not available?
  - No, this is not recommended.
- Can a patient who is receiving treatment for cancer receive influenza vaccine?
  - Yes, individuals with cancer can and should receive influenza vaccine.




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### FREQUENTLY ASKED INFLUENZA QUESTIONS

- Can a woman who is pregnant or breastfeeding receive flu vaccine?
  - Yes. It is particularly important for pregnant women to receive flu vaccine.
- If a child younger than 3 is inadvertently given adult influenza vaccine, can the dose be counted as valid?
  - Yes, but it is important to realize that two errors occurred here. The child was given the wrong dosage as well as the wrong vaccine. It is important to select a vaccine that is licensed for the age of the child.




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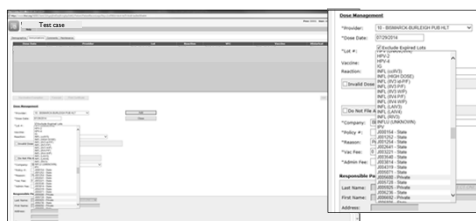
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## ENTERING INFLUENZA VACCINE IN NDIIS

- Flu vaccine must be entered into NDIIS within 4 weeks after administration.



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## OTHER VACCINES

- Providers should also check immunization records to ensure patient receiving flu vaccine isn't due for any other vaccines (childhood or adult vaccines- such as PCV13, PPSV23, Zoster).

## INCREASING RATES

- Sending reminders
- After hour clinics
- Employee clinics
- Remember flu shot at every point of care
- School clinics
  - Can also vaccinate community members at after hours school clinics

## FLU KICKOFF AND MEDIA CAMPAIGN

- Press Release sent out on September 29<sup>th</sup>
- NDDoH Press conference will occur on October 17, 2016
  - Will take place at North Dakota State University (Fargo)
  - North Dakota State University will be 'Vaccinating the Herd'
    - Student athletes




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## OTHER RESOURCES AVAILABLE

- NDDoH provides resources to encourage flu vaccination
  - Brochures
  - Posters
  - Ndflu.com




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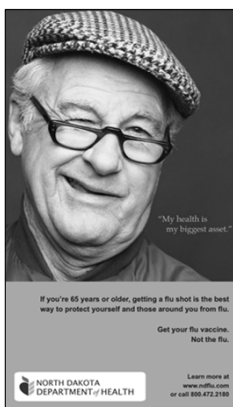
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**pregnant women**  
are at risk for serious complications from flu

- Fever, cough
- Difficulty breathing
- Hospitalization
- Pneumonia
- Death

Ask your doctor about the flu vaccine today!

Flu vaccination can protect both pregnant women and their babies from flu and flu-related complications.

Learn more at [www.ndhealth.com](http://www.ndhealth.com) or call 800.472.2180

**Reason enough to get VACCINATED!**

Even healthy people can get the flu, and even the healthy become ill. Flu can spread through the air, touch, or contact with infected people. Get the flu vaccine.

Get vaccinated.

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**TYPE YOUR QUESTION IN THE CHAT WINDOW TO THE RIGHT**

After the presentation, questions may be sent to:

Molly Howell	<a href="mailto:mahowell@nd.gov">mahowell@nd.gov</a>
Abbi Berg	<a href="mailto:alberg@nd.gov">alberg@nd.gov</a>
Lexie Barber	<a href="mailto:abarber@nd.gov">abarber@nd.gov</a>
Mary Woinarowicz	<a href="mailto:mary.woinarowicz@nd.gov">mary.woinarowicz@nd.gov</a>
Miranda Baumgartner	<a href="mailto:mlbaumgartner@nd.gov">mlbaumgartner@nd.gov</a>
Dominick Fitzsimmons	<a href="mailto:dfitzsimmons@nd.gov">dfitzsimmons@nd.gov</a>
Andy Noble	<a href="mailto:anoble@nd.gov">anoble@nd.gov</a>
Jill Baber	<a href="mailto:jbaber@nd.gov">jbaber@nd.gov</a>

**Immunization Program :**  
**701.328.3386 or toll-free 800.472.2180**

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**POST-TEST**

- Post-test
  - Nurses interested in continuing education credit, visit <http://www.ndhealth.gov/disease/post/default.aspx?PostID=134>
  - Successfully complete the five-question post-test to receive your certificate
- Credit for this session available until November 8, 2016
- This presentation will be posted to our website: [www.ndhealth.gov/immunize](http://www.ndhealth.gov/immunize)

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